

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-63 are pending. Claims 1-63 stand rejected.

Rejections Under 35 U.S.C. 102(b)

Claims 1-5, 11, 12, 15-19, 21, 23-26, 28, 29, 32, 34-39, 41, 42, 46-48, 50, 51, 52, 54-56, 59-62 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,220,733 of Gordon (“Gordon”). The Examiner stated that

Gordon shows an illuminated wheel with LEDs extending at the center of a wheel and illuminating along cross bars extending across the diameter of the wheel with optical elements/waveguides 14 as shown in Figure 1. Another embodiment shown in Figure 7 shows the LEDs positioned within a wheel cover in the center of the wheel. Column 4, beginning at line 24 discusses a coating that may be applied to reflector/light transmitters 14.

(p. 2, Office Action 12/28/04)

Applicants respectfully submit that claim 1 is not anticipated by Gordon under 35 U.S.C. 102§(b). Claim 1 includes the following limitations:

An apparatus comprising:
one or more light source assemblies; and
a positioning means for positioning the one or more light source assemblies within a rotating reference frame of a wheel, such that an amount of light from the light source assemblies reflected from a surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel.

(Claim 1) (emphasis added)

Applicants respectfully submit that claim 1 is not anticipated by Gordon. Claim 1 includes the limitation “that an amount of light from the light source assemblies reflected from a surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel.” This limitation is not found in Gordon or in any of the cited references. The inventive concept of an embodiment of the invention, for example, as claimed in claim 1, is that the surface of the wheel is illuminated by light from the light sources

reflecting from the wheel. The light sources are positioned such that the amount of light reflected from the wheel is greater than the amount of light from the light sources directed away from the surface of the wheel. Embodiments of the invention, therefore allow the surface of the wheel to be observed without interference from the light sources.

In contrast, Gordon teaches attaching reflective bodies 14 to the wheel 12 along with light sources 16 that illuminate the reflective bodies (see Figure 1 and col. 3, lines 25 – 36). Gordon teaches that the light sources are preferably situated to direct light toward the end of the reflective bodies. The reflective bodies reflect light from the light source outward and onto the surface of the wheel.

Gordon does not teach that the light from the light sources is reflected from the surface of the wheel, though it is not clear from the specification and figures of Gordon that some of the light from the light sources is not reflected from the surface of the wheel. This is a thorough distinction between Gordon and the limitations of claim 1. Applicants respectfully submit, therefore, that Gordon does not anticipate claim 1.

The following analysis of how light is directed and reflected in Gordon will make clear that Gordon does not anticipate claim 1, as well as illustrate the patentably distinct limitations of claim 1 in relation to any of the cited references.

In Gordon, the light sources are exposed, directing light radially from the surface of the wheel. Some of this light, from the light sources, may be incident upon the surface of the wheel (though this is not stated in Gordon, and is not relevant to the inventive concepts of Gordon). The amount of light from the light sources reflected from the surface of the wheel is less than the amount of light incident upon the surface of the wheel. It is clear from each of the configurations that the amount of light directed outward from the surface of the wheel is greater than the amount of light incident upon the surface of the wheel. Therefore, more light from the light sources is directed away from the surface of the wheel than is reflected from the surface of the wheel in contradistinction to the limitations of claim 1.

In regard to light from the light sources that illuminates the reflective bodies, it is clear from the configurations of Gordon that more light from the light sources is directed away from the surface of the wheel than illuminates the reflective bodies. Gordon further teaches that the light from the reflective bodies is reflected outward and onto the surface of the wheel. In each configuration of Gordon more light from the reflective bodies (not the light sources) is reflected outward from the reflective bodies than is reflected onto the surface of the wheel. The amount of light from the reflective bodies that is reflected from the surface of the wheel is less than the amount of light reflected onto the surface of the wheel by the reflective bodies and is therefore less than the amount of light from the light sources that is directed away from the surface of the wheel.

Gordon does not teach or suggest the fundamentally distinctive limitation of claim 1, nor would such a limitation be compatible with the wheel lighting system of Gordon. Gordon is attempting to provide wheel lighting. To that end, Gordon illuminates reflective bodies with light from light sources in order to reflect light from the reflective bodies outward. Therefore, Gordon, attempts to direct light toward the reflective bodies or outward from the wheel.

Given that all of the claims 1 – 63, include this limitation, either directly or through dependency, applicants respectfully submit that claims 1 – 63 are not anticipated by Gordon.

Rejections Under 35 U.S.C. § 102(e)

Claims 1 and 6-8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,776,458 of Wang (“Wang”). The Examiner stated that

Wang teaches that it is known in the art to illuminate and position light at the center of a wheel cover/hubcap.

(p. 3, Office Action 12/28/04)

Applicants respectfully submit that claim 1 is not anticipated by Wang under 35 U.S.C. 102§(e).

Wang teaches lighting emitting elements positioned on a wheel cover to emit light under driving conditions. Wang does not teach or suggest that any of the light from the light emitting elements is incident on the surface of the wheel (or wheel cover). Wang, therefore, does not teach or suggest that an amount of light from the light source assemblies reflected from a surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel.” The light emitting elements of Wang are disposed with “holding holes” which limits the amount of light from the lighting elements that could possibly be incident upon the surface of the wheel. However, even if the light emitting elements of Wang were disposed level with the surface of the wheel or above the surface of the wheel, it is clear from the configurations disclosed in Wang, that the amount of light from the light emitting elements directed away from the surface of the wheel is greater than the amount of light from the light emitting elements incident on the surface of the wheel. Therefore, the amount of light from the light emitting elements directed away from the surface of the wheel is greater than the amount of light from the light emitting elements reflected from the surface of the wheel.

Therefore, for the reasons discussed above, applicants respectfully submit that claims 1 – 63 are not anticipated by Wang.

Rejections Under 35 U.S.C. § 102(a)

Claims 1, 13, 14, 23, 30, 36, 43, 44, 51, 57 and 58 stand rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,565,243 of Cheung (“Cheung”). The Examiner stated that

Cheung teaches that it is known in the art to provide LEDs along a portion of the rim of a wheel. Annular rings 22 house the LEDs.

(p. 3, Office Action 12/28/04)

Applicants respectfully submit that claim 1 is not anticipated by Cheung under 35 U.S.C. 102§(a).

Cheung teaches light emitting diodes (LEDs) disposed within a light housing. The light housing has a transparent cover to allow the light from the LEDs to be directed away

from the surface of the wheel. Cheung does not teach or suggest that any of the light from the light emitting elements is incident on the surface of the wheel (or wheel cover). Cheung, therefore, does not teach or suggest that an amount of light from the light source assemblies reflected from a surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel.” The LEDs of Cheung are positioned with light housings that substantially reduce any light from the LEDs being incident upon the surface of the wheel. It is it is clear from the configurations disclosed in Cheung, that the amount of light from the LEDs directed away from the surface of the wheel is greater than the amount of light from the LEDs incident on the surface of the wheel. Therefore, the amount of light from the LEDs directed away from the surface of the wheel is greater than the amount of light from the LEDs reflected from the surface of the wheel.

Therefore, for the reasons discussed above, applicants respectfully submit that claims 1 – 63 are not anticipated by Cheung.

Rejections Under 35 U.S.C. § 103(a)

Claims 9, 10, 27, 40 and 53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,220,733 of Gordon (“Gordon”) in view of U.S. Patent Application No. 2002/0136020 of Hung (“Hung”).

The Examiner has rejected claims 9, 10, 27, 40 and 53 under 35 U.S.C. § 103(a) as being unpatentable over Gordon in view of Hung. The Examiner has stated that

Hung teaches that is known in the art to use a shield 14 to direct light along an illuminated wheel. It would have been obvious to one skilled in the art that Gordon could be modified to include a shield in the same manner as taught by Hung because the shield provides a more direct way of focusing the emitted light along the wheel. Hung does not disclose whether the shield has a reflective coating. It would be an obvious design choice to include a reflective surface on the inner portion of the shield as that would enhance the light emission.

(p. 4, Office Action 12/28/04)

Claims 20, 49, and 63 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,220,733 of Gordon (“Gordon”) in view of U.S. Patent Application No. 2004/0037088 of English et al. (“English”).

The Examiner has rejected claims 20, 49, and 63 under 35 U.S.C. § 103(a) as being unpatentable over Gordon in view of English. The Examiner has stated that

English et al teaches that it is known in the art to use a prism sheet to reflect emitted light from an LED in a vehicle lamp. It would have been obvious to one skilled in the art that Gordon could be modified to include a prism sheet in the same manner as taught by English et al. because both references are directed to vehicle lamps and the prism sheet directs the light into a focused area.

(p. 4, Office Action 12/28/04)

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,220,733 of Gordon (“Gordon”).

The Examiner has rejected claim 22 under 35 U.S.C. § 103(a) as being unpatentable over Gordon. The Examiner has stated that

Gordon does not disclose whether the multiple lights can function independent of each other. In the absence of any unobvious or unexpected results to include a system for independent operation of the multiple lights would be a design choice depending on how complicated a system is desired.

(p. 4, Office Action 12/28/04)

Claims 31 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,565,243 of Cheung (“Cheung”) in view of U.S. Patent No. 6,220,733 of Gordon (“Gordon”).

The Examiner has rejected claims 31 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Cheung in view of Gordon. The Examiner has stated that

Cheung provides LEDs along the rim of the wheel. Gordon teaches that it is also known to either provide lighting along cross beams of the rim or at the center. It would be obvious to one skilled in the art that Cheung could be modified to include any of the various arrangements taught by Gordon because both references are directed to illuminated wheels and it would depend on the lighting effect desired.

(p. 4, Office Action 12/28/04)

Claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,220, 733 of Gordon (“Gordon”) in view of U.S. Patent No. 5,800,035 of Aichele (“Aichele”).

The Examiner has rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Gordon in view of Aichele. The Examiner has stated that

Aichele teaches that it is known in the art to provide illumination at the center of a wheel with light projectors 90. It would have been obvious to one skilled in the art that Gordon could be modified to include light projectors at the center of the wheel in the same manner as taught by Aichele because the conductors provide a more focused beam of light.

(p. 5, Office Action 12/28/04)

Applicants respectfully submit that the cited references, alone or in combination, do not render the claims obvious for the reasons discussed above. That is, none of the cited references alone or in combination, teach or suggest the limitation “that an amount of light from the light source assemblies reflected from a surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel.” Further, none of the cited references distinguish the relative magnitude of light directly from the light sources and light from the light sources reflected from the surface of the wheel.

Therefore, for the reasons discussed above, applicants respectfully submit that claims 1 – 63 are not rendered obvious by any of the cited references alone or in combination.


It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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By: _____


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